Niveau(x) d'enseignement: 3 Numéro EDUQ : 0170785
Centre d'intérêt: 74

Adiv, Ellen.

A comparison of second language performance in two alternative French immersion programs / Ellen Adiv. -- [Montréal] : Commission des écoles protestantes du Grand Montréal, Instructional Services Department, 1980.
iii, 65, [9] p. : ill. ; 28 cm.

Résumés en français et en anglais au début du v. Bibliographie: p. 47-48. Notes bibliographiques: p. 46.

Cote Dewey: 372.654/A235c Cote LC: LB/1528

Descripteur(s): *Français (Langue) *Langue seconde *Evaluation de l'apprentissage *Classe d'immersion *Primaire (Niveau)

Identificateur(s) de sujet: *Hébreu (Langue)

L'étude porte sur l'apprentissage du français langue seconde et compare les acquis d'élèves en classe d'immersion française et d'élèves apprenant concurremment le français et l'hébreu en classe d'immersion. Il s'agit de déceler les erreurs grammaticales les plus fréquentes et les plus persistantes ainsi que l'importance du nombre d'heures d'enseignement et du cumul de l'apprentissage de deux langues secondes sur la fréquence des fautes et leur nature.

L'enquête porte sur deux groupes de 19 enfants de langue maternelle anglaise du premier cycle du primaire provenant de la région montréalaise. Le premier groupe est constitué d'élèves inscrits en classe d'immersion française, le second d'élèves apprenant simultanément le français et l'hébreu en classe d'immersion. Deux tests d'expression orale ont été utilisés pour comparer leurs résultats. Le premier est basé sur la technique de l'entrevue, le second sur la reconstitution d'une histoire à partir d'images.

Les résultats démontrent que: 1. Les enfants du programme français commettent proportionnellement moins d'erreurs que les élèves du programme français-hébreu; 2. De la première à la troisième année, l'expression orale en français s'améliore davantage dans le programme français que dans le programme français-hébreu; 3. Les élèves du programme français maîtrisent plus de structures linguistiques que ceux du programme français-hébreu; 4. Les élèves du programme français-hébreu commettent plus de fautes pouvant être attribuées à l'interférence d'une autre langue que ceux du programme français.

Type de document: r
Région(s) administrative(s): 063
Financement: Bénéficiaire - BEPGM
Organisme(s) source(s) - MEQ - DGDP
Prog. amme(s) de subvention - DEL

Auteur de l'analyse: ar

ED 0 0170785

A COMPARISON OF SECOND LANGUAGE PERFORMANCE IN TWO ALTERNATIVE FRENCH IMMERSION PROGRAMS

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E D U Q 8170785

A Comparison of Second Language Performance in Two Alternative French Immersion Programs

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January 1980

Acknowledgements

This study was made possible by a research grant to the Instructional Services Department, The Protestant School Board of Greater Montreal from le ministère de l'Education, gouvernement du Québec. The testing pertaining to the Hebrew schools was funded by a research grant from the Office of the Secretary of State, Language Programs Branch, Ottawa, to Fred Genesee and by a research grant from le ministère de l'Education, gouvernement du Québec to one of the Hebrew schools.

I would like to thank the principals, teachers and students who participated in this research. A special note of thanks is due to the French control group for their most generous participation in the project.

I would also like to express my gratitude to Fred Genesee for his assistance.

Résumé

La présente étude traite de l'apprentissage du français langue seconde. Dans ce but, on a administré un test d'expression orale à des élèves anglophones de 1ère, 2ème et 3ème années qui participaient à deux programmes d'immersion primaire dont l'un était enseigné totalement en français et l'autre partiellement en français et en hébreu. Dix-huit structures ont été examinées à l'aide d'une analyse des fautes commises. Les résultats ont démontré que: 1) les enfants du programme français commettaient proportionnellement moins de fautes que les élèves du programme français-hébreu; 2) de la 1ère à la 3ème année, l'expression orale en français s'est améliorée davantage dans le programme français que dans le programme français-hébreu; 3) à la fin de la 3ème année, les élèves du programme français maîtrisaient plus de structures que les élèves du programme français-hébreu; 4) les élèves du programme français-hébreu commettaient plus de fautes qui pouvaient être attribuées à l'interférence d'une autre langue que les élèves du programme français; 5) la majorité des fautes pouvaient être attribuées à la surgénéralisation des règles de la langue seconde, mais les fautes les plus persistantes semblaient parvenir, à la fois, du transfer négatif de la langue maternelle et de la surgénéralisation des règles de la langue seconde.

Summary

The purpose of this research was to study the learning of French as a second language. An oral production test was administered to 114 native English-speaking children from Grades 1, 2 and 3 studying in two different types of early immersion programs: one an all French immersion program and the other a French-Hebrew immersion program. Eighteen French structures were examined by means of an error analysis. The results show that: 1) The children in the all French program made proportionally fewer errors than the children in the French-Hebrew program. 2) The improvement in verbal performance in French from Grade 1 to Grade 3 was more pronounced in the all French program than in the French-Hebrew program: 3) At the end of the third year, the children in the all French program had mastered more structures than the children in the French-Hebrew program. 4) The children in the French-Hebrew program made more errors which could be attributed to the interference of another language than the children in the all French program: 5) Most of the errors could be attributed to the overgeneralization of rules of the target language, but those errors which were most persistent seemed to be attributable to both interference from the mother tongue and over-generalization of target rules.

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The French immersion programs offered by the Protestant School Board of Greater Montreal (P.S.B.G.M.) have been consistently evaluated since their inception (Genesee, 1979). The most noteworthy finding of these evaluations is that the students who participate in these programs score significantly higher on French language tests than students who receive the regular ½ - 1 hour daily French-as-a-second language instruction. The evaluations, however, also note that, although immersion students become communicatively relatively fluent in French, their performance on production tasks remains inferior to that of native French speakers. Furthermore, certain researchers have found that the students in immersion programs do not improve their performance with respect to linguistic accuracy (Spilka, 1976) and have proposed that these students may be developing a dialect of their own, similar to a pidgin (Selinker, Swain and Dumas, 1975).

The present study was undertaken in order to examine more closely the oral production of immersion students at the lower elementary grades where exposure to French is most intense. The specific purpose of the study was to examine the types of grammatical errors most frequently produced by immersion students at these grade levels and to investigate (1) whether intensity of instruction influences the type and frequency of errors, (2) whether cumulative time influences the type and frequency of errors, and (3) which types of errors are most persistent in the students' speech patterns.

Method

Subjects

The children selected for this study came from two different types of immersion programs: an early immersion program at the P.S.B.G.M. (hereafter FF) and a double French/Hebrew immersion program (hereafter FH). In each program 19 children were selected at each of three different grade levels: grades 1, 2, and 3. There were slightly more girls than boys in all six groups. All the children were native English speakers. In order to avoid a possible teacher effect, the children were selected from two different classes at each grade level. In the FF program all the children came from the same school. In the FH program the children were selected from two different schools since parallel classes were not available in any of the schools.

There were two basic differences between the two programs: 1) the intensity of instruction via French in each program and 2) the exposure to a third language in the FH program. In the FF program all of the 25 weekly hours of instruction in grades 1 and 2 were in French except for an hour and a half of gymnastics and library. English Language Arts was introduced in grade 3, leaving only 15 hours of instruction in French. The FH program had 30 weekly hours of instruction time, half of which was alloted to instruction in French and the other half was alloted to instruction in Hebrew. In one of the schools English Language Arts was introduced in grade 3 (two hours weekly), but in the other school English Language Arts was not introduced until after grade 3.

In order to assess the equivalence of the groups at each grade level, all the children were administered the coloured Progressive Matrices Test (Raven, 1956).

Test Description

Two testing techniques were used: a short oral interview and a picture based test. The oral interview was used to elicit structures related to age. The picture based test consisted of nine sets of 2-5 pictures each (see Appendix). The pictures were constructed so as to elicit all of the linguistic structures that were to be examined and that were not elicited by the oral interview. In order to maintain the communicative aspect of oral production each set of pictures was constructed so as to contain a small story. Furthermore, the pictures were constructed so as to provide several contexts in which occurrences of each structure could be elicited. In order to induce the students to use adjectives, certain objects of different sizes and different colors were used in addition to the pictures. In order to be able to measure more accurately changes in verbal performance of children in different grades, the same tests were administered at the three grade levels. Since the purpose of the study was to examine grammatical structures, the narration of the stories involved only very basic vocabulary and the grade 1 teachers of all three schools indicated that the children were familiar with the necessary lexical items.

To ensure that the tests effectively elicited the expected responses, they were first administered to a group of 18 native French speakers (hereafter francophone children) at the grade 1 level. The results obtained from these tests will be discussed along with the results of the immersion students.

Procedure for Administering the Tests

All the children were tested individually. Each test (oral interview and pictures) lasted approximately 15 minutes. The entire session was tape recorded. The picture based test was administered first, the objects were used next and the interview took place last. Sets I and IX of the pictures were introduced by narrating part of the story and asking the child to complete the story. This was done in order to situate the story in the past. In other sets the child was asked to tell what he saw in the pictures or to point out differences between two pictures or two objects. The child was never corrected or provided with the lexical items he lacked to complete a statement. Additional questions and expressions urging the child to continue his narration were frequently interjected, especially when the grammatical structure that was to be elicited had not been obtained. All questions were, however, worded so as not to use the particular structure that was to be elicited. All the tests were administered in late spring.

Procedure for Analysis of the Data

All the tapes were transcribed using a conventional French orthographic transcription. When the form was ambiguous with respect to spelling in a particular context a phonetic transcription was used, e.g.,

*Les petites filles /alle/ à l'école.[1]
(Les petites filles vont à l'éco'e). "The little girls are going to school."

---

[1] The asterisk (*) indicates that the sentence is grammatically incorrect. The part between the slashes indicates a phonetically transcribed word. In such a transcription the letter "e" represents the sound of "é", the sign "ə" represents the sound of "e" as in prend and the sign "ɛ" represents the sound of "è".

Only grammatical errors were analyzed. Errors were classified according to five major grammatical classes: pronouns, verbs, articles, adjectives and prepositions. Each major class, except for the class of preposition, was further subdivided into secondary classes. Each of these secondary classes will be briefly described below.

I Pronouns

Four different classes of pronouns were examined:

a) Third person masculine subject pronouns.

b) Third person feminine subject pronouns.

The masculine and the feminine subject pronouns included singular and plural pronouns since the singular/plural distinction pertains, in most cases, only to the written forms. However, only pronouns pertaining to human referents were included.

c) Object pronouns.

These pronouns included direct and indirect object pronouns in all persons, as well as the pronoun en.

d) Reflexive pronouns.

These pronouns also included all persons.

Errors included:

1. Errors in gender in the subject pronouns, e.g.

*Il parle.
(Elle parle.) "She speaks."

2. Errors in form, i.e., errors in case, person, gender and number in the object pronouns, e.g.,

*Il la parle.
(Il lui parle.) "He talks to her."

3. Errors in place, i.e., errors in the position of the pronoun in relation to other elements in the sentence, e.g.,

*Marie regarde le.
(Marie le regarde.) "Marie looks at him."

4. Omission, i.e., the absence of a pronoun in an obligatory context, e.g.,

*Un chien a mordu.

(Un chien m'a mordu.) "A dog bit me."

5. Intrusion, i.e., the use of a pronoun in a context where it is not required, e.g.,

*Les pompiers s'arrêtent le feu.

(Les pompiers arrêtent le feu.) "The firemen stop the fire."

II Verbs

Five different classes of verbs were examined:

a) Third person singular present indicative

b) Third person plural present indicative

c) Passé composé

Included in the present tense verbs were all instances of the verb avoir (to have) when this verb was not used as an auxiliary, as part of an idiomatic expression, such as il a faim (he is hungry) or as part of the expression il y a (there is) and all instances of the verb être (to be) when this verb was not used as an auxiliary. In the third person plural verbs which are phonetically distinct as well as verbs which are phonetically not distinct from the corresponding third person singular were included. In the passé composé all persons were included.

Reflexive verbs were counted as regular verbs since, aside from the reflexive pronoun, which was analysed separately, these verbs are conjugated as regular verbs using the auxiliary être in the passé composé.

d) Infinitive

This class contained all instances of the infinitive including those where the infinitive was used with a semi-auxiliary, e.g., elle va venir (she is going to come).

e) Idiomatic expressions. This class contained special usages of the verb avoir (to have) when the corresponding English structure would require the verb "to be." Two types of structures were examined 1) structures which express sensations, e.g., il a froid (he is cold) and 2) structures pertaining to the expression of a person's age, e.g., j'ai huit ans (I am eight years old). The first and third person singular and third person plural were included in this class.

Errors included:

1. Errors in the inflectional suffix of the present indicative, e.g.,

   *Elle sortir de la cuisine

   (Elle sort de la cuisine.) "She goes out of the kitchen."

2. Errors in the form of the infinitive, e.g.,

   *Il va pour /prane/ le chien.

   (Il va prendre le chien.) "He goes to take the dog."

3. Confusion of avoir and être both as regular verbs in the present indicative and in the idiomatic expressions, e.g.,

   *La fille a dans la chambre

   (La fille est dans la chambre) "The girl is in the room."

   *Le petit garçon est froid.

   (Le petit garçon a froid.) "The little boy is cold."

4. Errors in the passé composé which were further subdivided according to:

a) Errors in the auxiliary

(1) Omission of the auxiliary, e.g.,

*Il tombé.

(Il est tombé.) "He fell."

(2) Confusion between avoir and être, e.g.,

*Elle a parti.

(Elle est partie.) "She left."

Errors in person and/or number were not included since they do not relate specifically to the use of the auxiliary.

b) Errors in the form of the past participle

*Elle a /prɔne/ le gateau.

(Elle a pris le gateau.) "She took the cake."

c) Errors in choice of tense, i.e., choice of a tense other than a passé composé in a context where the passé composé was obligatory, e.g.,

*Le petit garçon raconte qu'un chien le mord.

(Le petit garçon raconte qu'un chien l'a mordu.) "The little boy tells that a dog bit him."

III. Articles

Six different classes of articles were examined:

a) Masculine singular articles.

b) Feminine singular articles.

c) Plural articles.

Masculine, feminine and plural articles included all instances of definite, indefinite, and partitive articles except for elided and contracted forms.

d) Elided form. This form is the form of the definite article in front of a noun starting with a vowel sound, e.g., l'oiseau (the bird).

e) Contracted forms. These forms are derived from the contraction of the prepositions à and de with the masculine singular and plural definite articles (au, aux, du, des).

f) The reduced form de. This form is derived from either the partitive or the indefinite articles when the latter are used after an adverb of quantity, e.g., beaucoup de (much/many) or after the negative particle pas, e.g., je n'ai pas de temps (I don't have time).

Errors included:

1. Errors in gender, e.g.,

   *le maman.

   (la maman.) "The mother."

2. Errors in number, e.g.,

   *le livres.

   (les livres.) "The books."

3. Omission of the article in an obligatory context, e.g.,

   *les lapins et oiseaux.

   (les lapins et les oiseaux.) "The rabbits and the birds."

4. Doubling of the article, e.g.,

   *le l'arbre.

   (l'arbre.) "The tree."

5. Failure to use the elided, contracted or reduced forms of the article, e.g.,

   *le arbre.

   (l'arbre.) "The tree."

In the case of the contracted forms, the form was only counted wrong if the child used the correct article, e.g.,

*à le garçon.

(au garçon) "To the boy."

If the child , however, said: *à la garçon the error was classified as an error in the masculine article since the form à la by itself is correct.

In the case of the reduced form de, all instances of failure to produce the correct form were counted as errors, e.g.,

*Il n'a pas un livre.

(Il n'a pas de livre.) "He hasn't got a book."

*Il a beaucoup des livres.

(Il a beaucoup de livres.) "He has many books."

IV. Adjectives

Two different classes of adjectives were examined:

a) Masculine adjectives

b) Feminine adjectives

Singular and plural adjectives were included in each of the above classes since, in oral expression, number is mostly ambiguous in adjectives.

Errors included:

1. Errors in gender, e.g.,

*le petite garçon.

(le petit garçon.) "The little boy."

Because of the extreme variability noted in the speech patterns of second language learners (Andersen, 1978) and because of the process

of neutralization, which may influence the choice of an adjectival form (Setton, Note 1), it was decided to classify errors of gender in the adjective independently of errors of gender in the article, thus in

*le petit fille.
(la petite fille) "The little girl."

the article le and the adjective petit were counted as two separate errors.

2. Errors in form when that form is not related to gender, e.g.,

*la porte est /uvre/.
(la porte est ouverte.) "The door is open."

3. Errors in place, i.e., errors in the position of the adjective in relation to the noun, e.g.,

*des bleus yeux.
(des yeux bleus.) "Blue eyes."
*une fleur belle.
(une belle fleur) "A beautiful flower."

V. Prepositions

Because of the difficulty in establishing clearly definable subclasses, it was decided not to subdivide this class.

Errors included:

1. Substitution errors, i.e., the use of a wrong preposition, e.g.,

*Elle téléphone pour la police.
(Elle téléphone à la police.) "She calls the police."

2. Omission, i.e., the absence of a preposition in an obligatory context, e.g.,

*Elle demande le monsieur si...

(Elle demande au monsieur si...) "She asks the gentleman if..."

3. Intrusion, i.e., the use of a preposition in a context where it is not required, e.g.,

*Les écureuils cherchent pour des noix.

(Les écureuils cherchent des noix.) "The squirrels are looking for nuts."

Method of Analysis

Since length of discourse can influence the number of errors made by a speaker, errors were calculated as a function of the number of obligatory contexts. Obligatory contexts are defined as those occasions created by the child for the use of a given structure, although the child may not provide the required form of that structure (Dulay and Burt, 1974).

For each child all the obligatory contexts in each grammatical class were counted on condition that there was a minimum of two such contexts in a given grammatical class.

Next, the errors produced in each grammatical class were counted and compiled according to program (FF, FH) and to grade (grades 1, 2, 3). For each of these six groupings, the total number of errors in each grammatical class was divided by the respective number of obligatory contexts for that class, yielding an error ratio for each grammatical class. All error ratios were multiplied by 100 and expressed as percentages.

For each grammatical class a X^2 test was used to determine (1) whether the percentages of errors in each program differed significantly from one another at each of the three grade levels and (2) whether the

percentages of errors in the three grades of each program differed significantly from one another. Where significant differences among the three grades of either program were found an extension of the Scheffé test (Marascuilo, 1971) was used to determine which pairs of grades were significantly different. All the X^2 test results were obtained from raw scores of the data, i.e., from the comparison of the correct and incorrect number of occurrences in each grammatical class.

Results

The children's scores on the Raven's Coloured Progressive Matrices Test were analyzed first, using a two-way analysis of variance procedure. In order to assess the equivalence of all the groups at a given grade level, the results of each group within the same program were analyzed separately. Thus, the main variables were grade (grades 1, 2, 3) and group (FF_1, FF_2, FH_1, FH_2). The analysis showed no significant differences among the groups at each grade level (Table 1). Hence, the latter were regrouped into two major groups FF, FH at each grade level, resulting in a total of six distinct groups. The results of the tests also show that there is no evidence that differences in linguistic performance between the two groups (FF, FH) at each grade level were due to basic differences in mental ability.

The results obtained from the error analysis will be described below according to the order in which the grammatical classes were presented in the previous section. The number of obligatory contexts for each major grammatical class and for each secondary class is summarized in Table 2. The statistical analyses of the results of the error analysis are given in Tables 3, 4, 5, 6 and 7. Finally, the different grammatical

classes were ranked in an order of increasing percentage of errors to determine a possible order of difficulty in the learning of the linguistic structures examined. These rank orders are presented in Tables 8, 9 and 10.

I Pronouns

Prior to discussing the errors made by the children in each of the secondary classes of the pronoun, it is of interest to note that in grades 1 and 2 the children in the FH program provided markedly fewer pronoun contexts than the children in the FF program (Table 2), who in turn provided markedly fewer such contexts at all three grade levels than the francophone children ($\bar{X}$ = 52.78). This disparity between the number of obligatory contexts provided by the immersion students and that provided by the francophone children suggests that second language learners may avoid pronouns because of the linguistic complexity involved in pronominalization.

Third Person Masculine Subject Pronouns

In the FF program the percentage of masculine subject pronoun errors decreases significantly from grade 2 (5%) to grade 3 (1%). In the FH program there is no significant decrease from grade 1 (4%) to grade 3 (2%). Furthermore, the grade 3 children in the FF program performed as well as the francophone children. The most striking finding pertaining to the error counts in this class is the low percentage of errors produced by all six groups (Table 3A). It has been suggested that a grammatical feature be considered mastered if it is produced incorrectly in only 10% or less of its obligatory contexts (Dulay and Burt, 1974). In the case of the masculine subject pronoun the error percentages for all six groups

are below this threshold. Between the two programs the only significant difference in the percentage of errors is in grade 2 and may be interpreted as resulting from the fact that, while there is a slight increase in the percentage of errors between grades 1 and 2 in the FF program, there is a decrease between these same grades in the FH program. It should, however, be noted that all the errors in grade 2 of the FF program were produced by only 15% of the children, one of whom constantly used the feminine form elle instead of the masculine form il. These findings suggest that the increase in the percentage of errors observed between grades 1 and 2 in the FF program may be attributable to individual learner differences.

Third Person Feminine Subject Pronouns

In the FF program the percentage of feminine subject pronoun errors again decreases significantly from grade 1 (58%) to grade 3 (13%). Furthermore, the difference in the percentages is significant between all three grades and in grade 3 the percentage is only slightly above the 10% threshold (Table 38). In the FH program there is no significant decrease in the percentage of errors from grade 1 (46%) to grade 3 (35%). The comparison between the two programs shows that in grade 3 the percentage of errors produced in the FH program (35%) is significantly higher than that produced in the FF program (13%).

When the results for the feminine subject pronouns are compared to those of the masculine subject pronouns it becomes apparent that the percentage of feminine pronoun errors is much higher than that of the masculine pronouns at all three grade levels. Most of the gender errors (84%) in the subject pronouns are in the feminine pronouns. Almost all of these errors involve the substitution of the masculine form il for the

feminine form elle. Similar results have been found by other researchers (Swain, 1976; Tarone, Frauenfelder and Selinker, 1976). It is of interest to note that the francophone children also produced proportionally more errors in the feminine pronouns than in the masculine pronouns (4%). However, their errors pertained only to plural pronouns.

Object Pronouns

In both programs the percentage of object pronoun errors decreases significantly from grade 1 (FF = 94%, FH = 84%) to grade 3 (FF = 35%, FH = 59%). Furthermore, the percentage of errors in the FF program at the grade 3 level is significantly lower than that in the FH program, though neither reaches down to the 10% error threshold (Table 3C).

For children in both the FF program and the FH program omission was the most frequent type of error. Similar results have been noted by other researchers (Bongard, Note 2; Swain, 1975). When object pronouns were produced,errors in form and place frequently occurred simultaneously. It is of interest to note that errors in place like:

*La maman a donné lui un manteau.

(La maman lui a donné un manteau.) "The mother gave him a coat."

which may be attributed to L1 interference (Tarone et al., 1976)have also been noted in the speech of very young francophone children (Lazure, Note 3).

The francophone children, too, made more errors in object pronouns (7%) than in subject pronouns. However, their errors were always errors in form.

A pronoun which was not at all used by the immersion children was the pronoun en. Its absence frequently resulted in structures which paralleled the corresponding English sentence structure, suggesting possible mother-

tongue interference, e.g.,

*Ce petit garçon a de l'argent et l'autre n'a pas. "This little boy has money and the other doesn't."

By contrast, the francophone children used this pronoun as frequently as other object pronouns.

Reflexive Pronouns

The percentage of reflexive pronoun errors is relatively high in both programs and at all three grade levels (Table 3D). In the FF program there is a decrease in the percentage of errors from grade 1 to grade 2, followed by an increase from grade 2 to grade 3. Consequently the decrease from grade 1 (91%) to grade 3 (86%) is not significant. Similarly, there is no significant decrease in the percentage of errors from grade 1 (88%) to grade 3 (78%) in the FH program. Between the two programs there seems to be a significant difference in grade 2. It should, however, be noted that these significant differences have to be interpreted cautiously because of the small number of occurrences in this class.

Here again, the majority of errors were omissions. There were, however, two other types of errors which, although infrequent, reveal some interesting patterns of development in second language learning. Firstly, all the correct forms of the reflexive pronouns in grades 1 and 2 were produced by less than half the children in those two classes (48%). Furthermore, some of these children also produced forms such as:

*Elle marche devant la porte et va-t-en.

(Elle marche vers la porte et s'en va.) "She goes to the door and walks out."

These findings suggest that some children may be producing the reflexive pronoun in conjunction with certain verbs as a prefabricated pattern

(Hakuta, 1974). In these patterns the reflexive pronoun is seen as an integral part of the verbal structure and is therefore not omitted. Secondly, in grade 3 intrusion errors begin to appear. This finding suggests that the reflexive pronoun may now be perceived as a distinct grammatical feature, hence, its omission is more frequent as reflected in the increasing percentage of errors from grade 2 to grade 3 of the FF program. It is of interest to note that the reflexive pronoun also seems the most difficult type of pronoun for the francophone children (9% errors). However, as in the case of the object pronouns, most of the errors made by the francophone children were errors of form rather than errors of omission and intrusion.

In summary, this part of the study indicates that 1) masculine subject pronouns can be considered mastered by all six groups; 2) the percentage of errors in the feminine subject pronouns decreases significantly from grade 2 to grade 3 in the FF program, but not in the FH program; 3) the percentage of errors in the object pronouns decreases significantly from grade 1 to grade 3 in both the FF and the FH programs; 4) there is no significant decrease in the percentage of errors in the reflexive pronoun; 5) the difference in performance between the two programs is most pronounced in grade 3, where the children in the FH program made markedly more errors than the children in the FF program in all pronoun classes under study except in the reflexive pronouns; 6) the performance of the children in both programs differed from that of the francophone children with respect to the number of pronoun contexts provided, the proportion of errors and the types of errors made.

II Verbs

Of the five grammatical classes examined the verb class contains the largest number of obligatory contexts in both programs and at all three grade levels (Table 2). This is partly due to the way the questions were worded. Questions such as "Why did they come? What did mother say? What is the little boy doing?" can be answered without providing the subject, but cannot be answered without providing the verb. The second major reason for the comparatively large number of verbs is the fact that the noun phrase can consist of either a noun (and its subclasses) or of a pronoun, two major classes which were considered separately in the present study, while verbs constituted a single major class. It is of interest to note that there were no ommissions in this class; hence, the obligatory contexts represent the number of verbs actually produced. There is thus a steady increase from grade 1 to grade 3 in the number of verbs used, so that in grade 3 the number of verbs recorded in the two programs is approximately equal to that noted for the francophone children (FF, $\bar{X}$ = 77.89; FH, $\bar{X}$ = 86.79; francophones $\bar{X}$ = 80.59). Since the verb is a central element of the sentence structure, this continued expansion in the number of verbs used by the immersion children attests to the children's increased ability to express themselves in French.

Third Person Singular Present Tense Indicative

In both programs the percentage of errors in the third person singular of the present indicative decreases significantly from grade 1 (FF = 8%, FH = 17%). The comparison between the two groups shows that the children in the FH program made significantly more errors than the children

in the FF program at all three grade levels (Table 4A). The most noteworthy feature of the children's performance with regard to the singular verbs is the low percentage of errors recorded for all six groups. It is of interest to note that in the FF program the third person singular present indicative is mastered in all three grades according to the 10% error threshold, whereas in the FH program mastery of this form is only reached by grade 3.

Closer investigation of the kinds of errors produced by the children reveals that the majority of errors involved confusion between the third person singular of the verb avoir and either the presentative il y a, e.g.,

*Il y a un chapeau.
(Il a un chapeau.) "He has a hat."

or the verb être when the latter was followed by an adjective derived from a transitive verb, e.g.,

*La porte a ouvert.
(La porte est ouverte.) "The door is open."

A small number of errors involved the use of another present tense form of the same verb, e.g.,

*Le garçon /mɛt/ son manteau.[1]
(Le garçon met son manteau.) "The boy is putting on his coat."

or the use of the infinitive form, e.g.,

*La fille sortir.
(La fille sort.) "The girl leaves."

It is of interest to note that the incorrect form */mɛt/ was only produced in the FF program and appeared in all three grades. The continuing presence of this error suggests that it may have become a fossilized form for at least part of the population of this school.

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[1] According to phonetic transcription the word-final "t" is sounded.

Another kind of error in the third person singular present indicative consisted of the use of the corresponding form of the verb être (to be) plus the radical of the main verb. This error was produced predominantly by the children in the FH program and occurred in contexts where the corresponding English structure would be the present continuous tense, e.g.,

*Il est mange.

(Il mange.) "He is eating."

Third Person Plural Present Indicative

In both programs the percentage of errors in the third person plural of the present indicative decreases significantly from grade 1 (FF = 70%, FH = 71% to grade 3 (FF = 47%, FH = 56%). The comparison between the two programs shows that the children in the FH program made proportionally more errors than the children in the FF program at all three grade levels; in grade 2 this difference is significant (Table 48).

When the deviant forms produced in the third person plural are examined, it becomes apparent that most of the errors occurred in verbs other than those of the first conjugation (Table 40). These verbs constituted 65% of all the verbs produced. It should be noted that in verbs of the first conjugation (verbs ending in er in the infinitive, e.g., manger the form of the third person plural is phonetically identical with the third person singular. Furthermore the verbs of the first conjugation constitute the majority of French verbs; hence, third person plural forms which do not conform to this pattern constitute exceptions to the rule for the learner. It is of interest to note that verbs with

third person plural forms that are completely distinct from the corresponding third person singular forms, e.g., a/ont (has/have), est/sont (is/are), va/vont (goes/go) seem to be mastered earlier than verbs in which the third person singular is the stem of the verb and the third person plural is an inflected form thereof, e.g., finit/finissent (finishes/finish). Such a development in the learner's second language grammar is in keeping with findings from first language acquisition (Slobin, 1973) and seems to be reflected in the performance of the francophone children tested in the present study (5% errors, most of which were caused by the substitution of the uninflected singular form for the appropriate plural form in verbs other than those of the first conjugation).

Passé composé

According to Harley and Swain (Note 4) the passé composé is the tense most frequently used by immersion students to indicate actions in the past. In the present study the passé composé was in fact the only form of the past used, except for a few occurrences of the verb être in the imparfait. Furthermore, the results show that the forms of the passé composé are not well mastered and that there is no significant improvement from grade 1 (FF = 51%, FH = 63%) to grade 3 (FF = 52%, FH = 58%) in either program (Table 4D). The children in the FF program produced fewer errors than the children in the FH program at all three grade levels; however, these differences are statistically not significant.

In analyzing the deviant forms, three features pertaining to the production of the relevant forms were considered: 1) choice of tense, 2) the auxiliary, 3) the past participle.

l) Choice of tense. Choice of tense was determined by a child's failure to provide the past tense in an obligatory context. If, however, a child switched from the passé composé to the present tense in a context where such a switch did not affect the other parts of the sentence this was not counted as an error, since such switches are common practice, especially in oral performance. It is of interest to note that the francophone children also frequently switched from the passé composé to the present. However, there was a qualitative difference between the two groups in the way this was done, e.g.,

Immers.st.:	*Elle est allée dans le cuisine	"She went into the kitchen
	et regardé le gateau et...	and saw the cake and...
	puis elle sort.	then she goes out."
Francoph.:	Elle est entrée dans la cuisine	"She went into the kitchen
	et elle a vu le gateau et	and she saw the cake and
	maintenant elle s'en va.	now she goes away."

Thus, while both the immersion student and the francophone child seemed to avoid the passé composé when they were not sure of its form, the native speaker justified its use by situating the corresponding action in the present tense. Furthermore the contexts in which the francophone children switched from the passé composé to the present tense was limited to specific verbs such as s'en aller (to go away) and the presentative il y a (there is/there are). It is noteworthy that the children in grade 3 of both programs made more attempts at using the passé composé (FF, $\bar{X}$ = 17.42; FH, $\bar{X}$ = 14.53) than the francopnone children ($\bar{X}$ = 11.00). This may be due to the third graders' greater cognitive maturity. In general the choice of tense did not seem to

present a major problem to the children in the FF program who had mastered this feature in grades 2 and 3 according to the 10% error threshold. By contrast the children's performance in the FH program did not improve from grade 1 (17%) to grade 3 (19%); consequently the children in the FH program made significantly more errors in the choice of tense than the children in the FF program in grades 2 and 3 (Table 4E).

2) The auxiliary. Errors in the auxiliary accounted for the highest percentage of errors in the passé composé. There was no significant decrease in the percentage of errors from grade 1 (FF = 32%, FH = 45%) to grade 3 (FF = 38%, FH = 41%) in either program. The children in the FH program produced proportionally more errors than the children in the FF program. The differences were, however, not significant at any grade level (Table 4F).

Two types of errors in the auxiliary verb were identified: 1) omission of the auxiliary, 2) confusion between the only two possible auxiliary verbs of the passé composé, i.e., avoir and être.

Omission of the auxiliary verb accounts for 34% of the errors in the auxiliary; substitution of être for avoir accounts for 16% of the errors in the auxiliary and substitution of avoir for être accounts for 50% of the errors in the auxiliary. This high percentage of errors in the use of the auxiliary être is not surprising since most French verbs are conjugated with the auxiliary avoir. The overgeneralization of the auxiliary avoir can therefore be seen as an attempt by the learner to regularize the conjugation of the passé composé. This tendency of overgeneralization has been equally noted for certain verbs in the speech patterns of different groups of French Canadians (Mougeon & Carroll, 1976). It furthermore accounts for all the errors in the auxiliary verb (2%) made by the francophone children in this study. Finally it is of interest to note that omission errors were made more

frequently by children in the FH program than by children in the FF program. Most of these errors occurred in the second verb of a compound sentence, e.g.,

*Elle a touché le gateau
et sorti.

(Elle a touché le gateau et elle est sortie.) "She touched the cake and went out."

3) The past participle. The percentage of errors in the past participle of the passé composé is much lower than that of the auxiliary verb in both programs and at all three grade levels, though it is still markedly higher than that of the francophone children (1% error). Here again the percentages of errors do not change significantly from grade 1 (FF = 15%, FH = 15%) to grade 3 (FF = 17%, FH = 13%) and the differences between the two programs are not significant at any grade level (Table 4G). All of the errors occurred in verbs other than those of the first conjugation. Two types of errors were noted. Firstly, the form of the past participle of verbs in the first conjugation was overgeneralized and applied to the past participle of verbs in other conjugations, e.g., */vane/ for venu (came), *prane/ for pris (took), */mete/ for mis (put). These errors were the most common ones of the past participle. The second, less frequent, type of error was the substitution of an infinitive for the past participle. This kind of error occurred mainly in the second verb of a compound sentence, e.g.,

*Un chien a venu et a mordre moi.

(Un chien est venu et m'a mordu.) "A dog came and bit me."

As noted above, the past participle and the infinitive of verbs in the first conjugation are phonetically ambiguous. The error could thus be caused either because the learner overgeneralizes this lack of distinction between the infinitive and the past participle in verbs of the first conjugation, or because the infinitive is the only form that came readily to mind. The fact

that these errors seem to occur more frequently in compound sentences suggests that sentence length creates pressures under which rules, which have only been partially internalized, are not applied. These conclusions may also help to explain the omission of the auxiliary verb noted above in similar sentences.

Infinitive

Verbs in the infinitive were produced infrequently and were used mainly in structures containing the verbs vouloir (want) and pouvoir (can) as main verbs. It is of interest to note that these structures were almost never produced in grade 1 of the FH program ($\bar{X} = 0.47$). Consequently the percentage of errors was not calculated for this group. In the other two grades the children in the FH program (grade 2 = 25%, grade 3 = 14%) made proportionally more errors than the children in the FF program (grade 2 = 11%, grade 3 = 13%). These differences are, however, not significant (Table 4H). Furthermore, the percentage of errors does not decrease significantly across the grades in either program.

Errors in the infinitive were similar to those noted for the past participle and consisted of either overgeneralized forms of the infinitive of verbs in the first conjugation or of present tense forms of the same verb. The latter kind of error occurred mainly when the present tense form had no phonetic connection with the infinitive, e.g.,

*Elle ne peut pas va.

(Elle ne peut pas aller.) "She cannot go (leave)."

It should be noted that the francophone children produced no errors in this class.

One kind of error which was not included in the above analysis, but which nevertheless pertains to the incorrect use of the infinitive by the immersion students is noteworthy. It consists of the use of an infinitive in a

sentence where the French structure requires a subordinate clause containing a verb in the subjunctive mood, thus contrasting with the corresponding English structure, e.g.,

*Elle veut le feu partir.

(Elle veut que le feu parte.) "She wants the fire to go away."

(s'en aille)

Idiomatic Expressions

As noted above, the idiomatic expressions refer to specific structures which require the use of the verb avoir (to have) as a main verb, where the equivalent English structure requires the verb "to be." The comparison between the two programs shows that the children in the FM program made proportionally fewer errors than the children in the FF program although the differences are not significant (Table 41). It is of interest to note that the percentage of errors decreases significantly from grade 1 (FF = 86%, FM = 81%) to grade 3 (FF = 73%, FM = 62%) in the FM program, but not in the FF program. The finding that the percentage of errors are relatively high in all three grades is hard to explain since many of these expressions are included in the kindergarten and grade 1 curriculum. Closer examination of the relevant structures revealed that structures containing a subject + verb in the first person singular were produced correctly more frequently than structures containing a subject + verb in the third person singular or plural. It is, however, impossible to determine whether this was due to the fact that these structures were related to the children's personal experience and were therefore more frequently used by each child or whether the children simply overgeneralized the form of the third person singular of the verb être (est) to the phonetically similar form of the first person singular of the verb avoir (ai). It is of interest to note that answers relating to age which contained no verb also showed probable mother-tongue

interference, e.g.,

Tester:	Dis-moi ton âge.	"Tell me your age."
Francophone:	Sept ans.	"Seven (years)."
Immers.stud.:	*Sept.	"Seven."

The francophone children made no errors in any of the idiomatic expressions.

In summary, this part of the study indicates that 1) In the present tense (singular and plural verbs) the percentage of errors decreases significantly from grade 1 to grade 3 in both programs. 2) In the passé composé and in the infinitive there is no significant decrease in the percentage of errors from grade 1 to grade 3 in either program. 3) The FH children made proportionally more errors in almost all the grammatical classes examined. In the 3rd person singular present indicative this difference between the programs is significant at all three grade levels. 4) The decrease in the percentage of errors in the idiomatic expressions is more pronounced in the FH program than in the FF program. 5) Some types of errors are more characteristic of the children in the FH program. 6) The performance of the children in both programs differs from that of the francophone children with respect to the proportion of errors and with respect to certain types of errors.

III Articles

Before discussing the errors made by the children in each of the secondary classes of the article, it is of interest to note that the children in the FH program provided more obligatory contexts and, hence, used more articles than the children in the FF program in practically all the secondary classes of the article (Table 2). This result is surprising since the results from other grammatical classes have shown that in most cases children in the FF program produced more obligatory contexts than children in the FH program, especially in grades 1 and 2. When these results are compared to those of

the francophone children ($\bar{X}$ = 38.60) this disparity becomes even more striking. For an explanation of this observation the article has to be seen within the larger context of the noun phrase. Here the speaker frequently has the choice of using either a nominal group or a pronoun. As shown above, the children in the FH program used fewer pronouns than the children in the FF program at all three grade levels. Hence the children in the FH program used a greater number of nouns in their attempts to convey meaning.

Masculine Singular Articles

The percentage of masculine singular article errors decreases from grade 1 (FF = 8%, FH = 11%) to grade 3 (FF = 4%, FH = 8%) in both programs though this decrease is significant only in the FF program (Table 5A). Consequently there is a significant difference between the two programs in grade 3. It is of interest to note that the children in all three grades in the FF program and the children in grades 2 and 3 in the FH program have mastered the masculine singular article according to the 10% error threshold although their performance remains inferior to that of the francophone children, who made no errors in this class.

Feminine Singular Articles

The percentage of feminine singular article errors is much higher than that of the masculine singular articles in both programs and at all three grade levels. (Table 5B). These findings are similar to those noted for the masculine and feminine subject pronouns. The percentage of feminine singular article errors decreases significantly from grade 1 (FF = 46%, FH = 50%) to grade 3 (FF = 29%, FH = 41%) in both programs. The comparison between the two programs shows that in grade 3 the percentage of errors is significantly

higher in the FH program than in the FF program. Closer examination of the deviant forms revealed that most of the errors were gender errors and were caused by the substitution of the masculine form for the required feminine form. The trend to overgeneralize the masculine article has been found by other researchers in both French (Swain, 1975) and Spanish (Cohen, 1976). Swain notes that in the data she examined the grade 1 children in a French immersion program in Toronto made approximately the same number of errors in masculine as in feminine articles and that the overgeneralization of the masculine article only occurred by grade 2. These findings are, however, not supported by the results from the present study, which indicate that the masculine article seems to be already overgeneralized in grade 1. The difficulty the learners experienced with the French gender system is not reflected in the speech patterns of the francophone children, who produced no errors in either masculine or feminine articles, and may be caused by the absence of this concept in English.

Plural Articles

The percentage of plural article errors decreases from grade 1 (FF = 11%, FH = 9%) to grade 3 (FF = 3%, FH = 5%) in both programs (Table 5C) though the decrease is only significant in the FF program between grade 1 and grade 2. It is of interest to note that the percentage of errors in the FF program is lowest in grade 2 (1%) though the increase between grades 2 and 3 is not significant. Furthermore, the children in all three grades of the FH program and children in grades 2 and 3 of the FF program have mastered the plural article according to the 10% error threshold. It should nevertheless be noted that the comparison between the two programs shows a significant difference in the percentages of errors at the grade 2 level. Closer

examination of the structures containing the plural articles revealed that the errors were caused either by the substitution of a singular article for the required plural form or by omission of the article. This latter type of error occurred mainly in sentences containing a series of nouns and where the corresponding English structure does not require an article, e.g.,

*Les garçons et filles patinent.

(Les garçons et les filles patinent.) "The boys and girls are skating."

As in the case of the masculine and feminine singular articles, the francophone children made no errors in the plural articles.

The Elided Form "l' "

There is no significant decrease in the percentage of errors in the elided form from grade 1 (FF = 2%, FH = 18%) to grade 3 (FF = 5%, FH = 12%) in either program.

The comparison between the two programs shows that the children in the FH program made proportionally more errors in the elided form than the children in the FF program. In grade 1 this difference is significant. It is of interest to note that the children in the FF program have mastered the elided form according to the 10% error threshold, although the pattern of development is somewhat irregular due to the initial increase in the percentage of errors between grade 1 (2%) and grade 2 (10%). Closer examination of the deviant structures produced by the children revealed that all the errors of the elided form produced in grade 1 of the FF program were made by one child whereas in each of the other two grades the errors were made by 25% of the children. These findings suggest that here, as in the case of the reflexive pronoun, most of the children in grade 1 may have used the elided form in conjunction with the following noun, e.g., l'école as a prefabricated pattern, whereas in grades 2

and 3 the article may have been recognized as a separate element of structure and its conventional form (le or la) then replaced the correct elided form more frequently. Further evidence that the elided form noun may be seen by grade 1 children as a single unit can be seen in the occasional doubling of the article in grade 1, resulting in structures such as *le l'arbre (the tree). By contrast to grade 1 there was only one such error in grade 2 and none in grade 3. In the case of the francophone children no errors related to the elided form were found.

Contracted Forms

The most striking observation pertaining to the contracted forms is the consistently high percentage of errors in this form in both programs and at all three grade levels (Table 5E). In the FF program there is no significant decrease in the percentage of errors from grade 1 (93%) to grade 3 (80%) while in the FH program the decrease between those grades is significant (grade 3 = 97%, grade 1 = 80%).

The comparison between the two programs shows no significant differences at any grade level and in grade 3 the percentage of errors is the same in both programs. Closer examination of these forms revealed that all the errors were caused by the failure to contract the preposition with the article. e.g.,

*Elle donne à manger à les animaux.

(Elle donne à manger aux animaux.) "She gives food to the animals."

The very high percentage of errors made by the immersion students is paralleled by a relatively high percentage of errors produced by the francophone children (11%). Of all the classes examined in this study, the contracted form is in fact the only class which the francophone children did not yet fully master according to the 10% error threshold.

The Reduced Form "de"

Here again there is no significant decrease in the percentage of errors from grade 1 (FF = 35%, FH = 42%) to grade 3 (FF = 30%, FH = 49%). The children in the FH program made proportionally more errors than the children in the FF program in grades 1 and 3. In grade 3 this difference is significant (Table 5F). Further investigation shows that 71% of all the errors produced in this class pertain to negative structures whilst only 29% of the errors pertain to structures containing an adverb of quality. This difference may be due to the fact that in the latter case the linguistic environment is invariable since de always appears after certain adverbs of quantity such as beaucoup (many/much), assez (enough), etc., whereas other determiners can appear after the negative particle pas, e.g.,

Il n'a pas son livre.	"He doesn't have his book."
Elle n'a pas le même livre que moi.	"She dosn't have the same book as I."

Furthermore in such sentences the determiner is the same for both the affirmative and the negative structure. The learner may therefore deduce that the determiner does not change in the negative form of the sentence. The relative difficulty of the reduced de form is also reflected in the francophone children's speech pattern (6% errors, all of which pertained to negative structures).
It is of interest to note that neither the immersion students nor the francophone children were consistent in their use of the reduced form, i.e., the same child might use once pas de and once pas un/une. Furthermore, in the case of nouns starting with a vowel, immersion students frequently overgeneralized the reduced form de (elided to d') to the corresponding affirmative structure, e.g.,

"Il a d'argent.	
(Il a de l'argent).	"He has money."

Clearly the learner has not yet been able to deduce in what contexts the reduced de form is to be used.

In summary, this part of the study indicates that:1) The masculine singular and the plural articles can be considered mastered in grades 2 and 3 of both programs. 2) The percentage of errors of the feminine articles is much higher than that of the masculine articles in both programs at all three grade levels. 3) The percentage of errors of the feminine articles decreases significantly from grade 1 to grade 3 in both programs. 4) There is practically no decrease in the percentages of errors pertaining to the elided form , the contracted forms and the reduced form de in either program. 5) The performance of the children in both programs differs from that of the francophone children with respect to the proportion of errors and with respect to certain types of errors.

IV Adjectives

As in the case of the articles, the children in the FH program provided more adjective contexts than the children in the FF program at all three grade levels (Table 2). This was due to the fact that the most frequently used adjective was petit, which was produced in expressions such as le petit garçon (the little boy) and la petite fille (the little girl). As noted above, children in the FF program pronominalized this type of phrase more frequently than the children in the FH program; consequently, they used comparatively fewer adjectives.

The majority of errors were errors of gender. Errors in the position of the adjective within the noun phrase occurred only in isolated instances and were therefore not included in the statistical analysis. When such errors did occur they seemed to indicate mother-tongue interference

not only in the position of the adjective but in the structure of the entire sentence, e.g.,

*C'était un froid jour. "It was a cold day."

(Il faisait froid ce jour-là.)

It is interesting that the structure il fait froid (it is cold), which is the commonly used expression when referring to cold weather, was produced by most of the francophone children, whereas immersion students in both programs used most frequently the structure c'est froid, which parallels the corresponding English structure "it is cold."

Masculine Adjectives

In the FF program there is practically no difference in the percentage of masculine adjective errors between grade 1 (11%) and grade 3 (12%), whereas in the FH program there is a significant decrease in the proportion of errors between those grades (grade 1 = 29%, grade 3 = 13%). between the two programs there is a significant difference in grade 1, but in grade 3 there is almost no difference between the two programs and both groups are close to reaching the 10% error threshold (Table 6A). It should be noted that their performance is, nowever, still markedly inferior to that of the francophone children, who made no errors in this class.

Feminine Adjectives

The percentage of feminine adjective errors does not decrease significantly from grade 1 (FF = 57%, FH = 48%) to grade 3 (FF = 49%, FH = 49%). in either program, although the decrease in the FF program is more pronounced and just fails to reach the .05 significance level. (Table 6B). It is of interest to note that in grade 2 the children in the FH program made significantly fewer errors than the children in the FF program. There were no other

significant differences between the programs.

As in the case of the gender-related classes of the pronoun and of the article, the percentage of errors of the feminine adjective is much higher than that of the masculine adjective in both programs and at all three grade levels. However, in the case of the feminine pronoun and the feminine articles there was significant progress from grade 1 to 3 towards mastery of these forms, whereas this is not so in the case of the feminine adjective. This may be due to the fact that the semantic content of the adjective is its most salient feature and, since the latter is not affected by gender, the uninflected masculine form continues to be overgeneralized more frequently. On the other hand, it should be pointed out that the number of errors in the masculine adjectives is proportionally higher than those in the masculine pronoun and in the masculine article. These findings suggest that there may be more confusion in the learner system as to which form to use. Alternatively it is possible that in some cases only the feminine form of the adjective is retained by the learner and used in both masculine and feminine contexts. Similar results have been noted by Stevens (Note 5), who studied the oral production patterns of immersion students in grades 1, 4 and 6, and found that the adjective blanc (white) was only used in its feminine form blanche by some of the children in all three grades.

Aside from gender errors there was a small percentage of errors in the uninflected form of the adjective, most of which pertained to the adjective ouvert (open), which was frequently produced as * /uvre/ by analogy to adjectives such as fermé (shut), cassé (broken), etc., which are derived from verbs of the first conjugation. This error was particularly frequent in grade 2 of the FF program, while children in grade 2 of the FI program mostly avoided this structure and used pas fermé (not shut) instead. It should be noted that, as in the case of the other gender related classes,

the feminine adjectives presented no difficulty for the francophone children (1% errors).

It is of interest to note that the children in both programs frequently avoided the problem of gender agreement by using the presentative c'est (it is), e.g.,

Tester:	Comment est la porte dans cette image?	"How is the door in this picture?"
Child:	C'est ouvert.	"It is open."

By contrast the francophone children responded by either substituting the appropriate pronoun elle for the noun porte (door),

Elle est ouverte. "She (it) is open."

or by omitting the subject and verb of the above sentence, thus only giving the adjective itself. In either case the adjective was always given in the feminine. It is thus not only the adjective, but the entire structure which differs from the expected response, suggesting that mother tongue interference may influence the immersion students' use of this particular structure.

In summary, the results of this part of the study indicate that 1) In the FF program there is no significant decrease in the percentages of masculine and feminine adjectives from grade 1 to grade 3. 2) In the FH program there is a significant decrease in the percentage of masculine adjective errors from grade 1 to grade 3. 3) The percentage of feminine adjective errors is much higher than the percentage of masculine adjective errors in both programs and at all three grade levels. 4) Neither the masculine nor the feminine adjectives are mastered by grade 3 in either program. 5) The performance of the children in both programs differs markedly from that of the francophone children, who made practically no errors in adjectives.

V Prepositions

The percentage of preposition errors decreases significantly from grade 1 (FF = 34%, FH = 34%) to grade 3 (FF = 21%, FH = 22%) in both programs. Between the two programs there is practically no difference at any grade level (Table 7A).

Most of the errors occurred when the preposition did not denote spatial relationships. This was equally true for the francophone children (9% errors). Omission of a preposition, which constituted 40% of all the preposition errors produced by immersion students, and intrusion of a preposition, which constituted 22% of all the preposition errors, could mainly be attributed to mother-tongue interference whereas substitution errors, which constituted 38% of all the preposition errors, could be attributed to both inherent difficulties in French and mother-tongue interference.

The most frequent omission error was caused by the verb téléphoner (to phone), which has to be followed by the preposition à in the context téléphoner à quelqu'un whereas the corresponding English structure "to phone someone" does not require a preposition. This error was also found in the speech of some of the francophone children and may be the result of language contact, a phenomenon frequently noted in communities such as Montreal which are largely bilingual (Weinreich, 1970).

Intrusion errors were mostly caused by the addition of the preposition de in front of an infinitive where the corresponding English structure would be "to + infinitive," e.g.,

*Il veut de prendre une noix.

(Il veut prendre une noix.) "He wants to take a nut."

Another intrusion error was observed when the corresponding English structure contained a verbal group consisting of a verb + preposition, e.g.,

*Il met son manteau sur.

(Il met son manteau.) "He puts his coat on."

The most frequent error of this type was caused by the English expression "to look for," which was rendered in French as *regarder pour. It is of interest to note that the correct French equivalent is the verb chercher, which is polysemantic and can mean either "to look for" or "to fetch" when used with aller (to go). Closer examination of the children's oral production revealed that even children who used the verb chercher in the context of "to fetch" rendered "to look for" as *regarder pour. It is thus possible that this error may be traced to lexical divergence between the two languages.

Substitution errors occurred frequently with expressions requiring the preposition en, which can be rendered in English as "in" or "into," e.g.,

*Dans l'hiver.

(En hiver.) "In winter."

The error is probably caused by the overgeneralization of dans, which is more frequently used to denote the spatial relationship "in." It is noteworthy that the entire structure dans article has been correctly substituted for the preposition en in spite of the absence of an article in the corresponding English structure.

Another frequent substitution error was the use of pour in a structure containing the concept of purpose or goal, e.g.,

*Elle donne quelque chose pour manger
à les animals.

(Elle donne quelque chose à manger "She gives the animals
aux animaux.) something to eat."

Substitution errors which could be attributed to mother-tongue interference frequently caused the entire expession to be awkward, e.g.,

*Sa maison est sur feu.

which could be reconstructed as:

Sa maison est en feu. "Her house is on fire."

Francophone children, however, described the situation as:

Il y avait un incendie. "There was a fire."

or Il y avait un feu dans la maison. "There was a fire in the house."

Children in the FH program occasionally substituted a Hebrew preposition for the corresponding French one, e.g.,

*...marchent el l'école.

(Elles vont à l'école.) "They walk to school."

It is of interest to note that the proportion of omission and substitution errors varies only slightly across the three grades whereas the percentage of intrusion errors increases significantly from grade 1 to grade 3 (Table 78). By contrast, the francophone children produced only substitution errors.

In summary, the results of this part of the study indicate that:1) there is a significant decrease in the percentage of preposition errors in both programs; 2) there is no significant difference between the two programs with regard to the percentage of preposition errors; 3) the proportion of intrusion errors increases from grade 1 to grade 3, whereas omission and substitution errors decrease across those grades; 4) the performance of the children in both programs differs from that of the francophone children with respect to the proportion of errors and with respect to certain types of errors.

Summary and Discussion

The findings of this study can be summarized as follows:

1) in grades 1 and 2 the children in the FF program used more pronouns and more verbs than the children in the FH program.
2) At all three grade levels the children in the FF program made proportionally fewer errors than the children in the FH program.
3) The decrease in the percentages of errors from grade 1 to grade 3 was more pronounced in the FF program than in the FH program.
4) At all three grade levels more structures were mastered in the FF program according to the 10% error threshold than in the FH program.
5) The children in the FH program made more errors which could be attributed to interference from another language than the children in the FF program. Otherwise there were no major differences in the types of errors produced in each grammatical class.
6) The children in both programs made more errors than the francophone children in practically all the grammatical classes under study. In several classes the types of errors made by the immersion students differed from those made by the francophone students.

These results lead to the following conclusions: firstly, the children in the FF program, especially in grades 1 and 2, were more verbal in French than the children in the FH program. It should be noted that these are the grades when practically all instruction in the FF program is through the medium of French whereas in the FH program only 50% of the total instruction time is devoted to French. Differences in verbal performance between the two programs were noticeable not only

in the amount of verbalization, but also in the kinds of speech patterns produced. By avoiding pronominalization more frequently, the children in the FH program seemed to rely more heavily on the structures and vocabulary provided by the tester's questions.

Secondly, the children in the FF program made proportionally fewer errors than the children in the FH program at all three grade levels. Furthermore, the improvement in performance with regard to grammatical forms was more significant in the FF program than in the FH program so that the difference in performance between the two programs was most pronounced in grade 3.

Thirdly, the comparison between the two programs also reveals that there is little difference in the types of errors made by the children in each program. Certain types of errors were, however, more predominant in the FH program. Two of these are noteworthy. Firstly, the verb être (to be) was inserted in front of the present tense forms of certain verbs, e.g., *il est mange (he is eating). Secondly, the auxiliary was omitted in the passé composé, e.g., *elle entré (she came in). It has been suggested that these errors may be caused by mother-tongue interference. Other studies (Lococo, 1976; Taylor, 1975; White, 1977) have noted that interference errors were more frequent in early stages of second language learning. Hence, the errors described above seem to support the notion that the students in the FF program were at a more advanced stage of French proficiency than the students in the FH program. It is of interest to note that when the grammatical classes were ranked at each grade level according to an order of increasing percentage of errors (Tables 7, 8, 9) significant correlations emerged

between the rank orders of the two programs at each grade level. These findings suggest that the relative degree of difficulty encountered by the learners in mastering the different grammatical classes does not seem to be affected by the intensity of the program. Furthermore, the rank orders seem to suggest a certain hierarchy of difficulty in the learning of the different grammatical classes examined in this study.

The major pattern that emerges from this hierarchy of difficulty is that the percentage of errors in the masculine forms of the gender-related classes (pronouns, articles and adjectives) is much lower than the percentage in the corresponding feminine classes. Similarly, the percentage of errors in the third person singular of the present indicative is much lower than the percentage in the corresponding third person plural forms. For a possible explanation of this pattern it may be useful to distinguish between marked and unmarked categories (Greenberg 1966). According to Greenberg the unmarked member of a pair is not only the shorter, hence the uninflected one, but it is also the more independent one of the pair, hence, it is used in neutral situations and in contexts where both the marked and the unmarked member are included. According to Slobin (1973), the unmarked forms are the first to emerge in mother-tongue acquisition. The findings of this study and other related studies (Harley and Swain, Note 4; Swain 1975; Setton, Note 1; Tarone, Frauenfelder and Selinker 1976) seem to suggest a similar process in second language learning.

It should be noted that the three classes that persistently rank lowest on the hierarchy of difficulty (the reflexive pronouns, the contracted articles and the idiomatic expressions) cannot be explained in terms of Greenberg's universals. Furthermore, the errors in all three

classes could be caused by mother-tongue interference. The question then arises as to why these three classes rank lowest on the hierarchy of difficulty, since mother-tongue interference usually characterizes early stages of second language learning. It is possible that the mother tongue serves as a constant frame of reference for the learner, providing both positive and negative transfer. Thus when a given category such as arbitrary gender marking is absent in the mother tongue there is no positive transfer and target language rules are extensively overgeneralized. This, in itself, may be a type of interference. On the other hand, when the mother tongue provides a possible frame of reference, as is the case for the reflexive pronouns, the contracted forms and the idiomatic expressions, the learner seems to revert to a strategy of first language transfer. One possible reason for the persistence of these errors in the learner's interlanguage may be the fact that the structures may be associated with other structures in the target language for which transfer from the mother tongue is positive. Thus, *il est faim (he is hungry) may be transferred from English by analogy to "he is happy," where the transfer yields the appropriate structure il est heureux. Furthermore, by using a strategy of mother-tongue transfer, the learner avoids the learning of more specific rules which delineate the contexts in which particular forms such as the reflexive pronoun and the contracted article have to be used. Thus, it may be the case that the learner continues to rely on his mother tongue for these structures in order to maximally reduce the burden of complexification of the target language system. Finally, the results of this study also show that, while the performance in both programs and particularly in the FF program improves

from grade 1 to grade 3, the number of structures actually mastered according to the 10% error threshold is very small. It should be noted that the deviant structures produced by the children did not hinder them from expressing themselves meaningfully in French. This is because many of the errors analyzed pertain to aspects of linguistic knowledge which are not essential for communication. It may, in fact, be the case that the children's ability to communicate adequately causes a certain lack of concern to attend to the more redundant linguistic features. The findings of this study, therefore, seem to imply that in immersion settings, where there is no peer pressure to conform to the regular norms of the language, it may be necessary to put more emphasis on the correction of linguistic forms in order to avoid the persistence of incorrect structures in the learners' speech patterns.

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Table 1

Summary of Coloured Progressive Matrices Test Scores[a]

	Grade 1	Grade 2	Grade 3
FF_1[b]	25.00	28.11	32.40
FF_2	26.33	29.67	29.56
FH_1	28.78	31.25	31.30
FH_2	27.13	28.33	29.56

F ratios: Class 1.77; Grade 9.02*; class x Grade 1.06;

*$F < .05$

[a]Maximum score = 36

[b]FF_1, FF_2, and FH_1, FH_2 indicate two different classes in FF and FH.

Table 2

Number of Obligatory Contexts According to Grade and Program

	Grade 1		Grade 2		Grade 3	
	FF	FH	FF	FH	FF	FH
Pronoun Totals	676	348	705	466	739	715
-subj. masc.	405	222	381	297	412	364
-subj. fem.	155	52	165	83	178	180
-object	62	25	88	36	79	95
-reflexive	54	49	71	50	70	76
Verb Totals	1210	960	1269	1134	1480	1615
-pres. sing.	706	605	670	696	801	851
-pres. plur.	182	156	202	184	200	240
-pres. pl. irreg.	129	103	127	120	122	169
-passé composé	162	118	238	125	255	276
-infinitive	70	9	83	34	100	107
-idiom. expr.	90	81	76	95	124	141
Article Totals	951	1102	1112	1156	1094	1469
-masc. sing.	314	400	361	379	372	443
-fem. sing.	186	288	287	303	258	375
-plural	202	184	204	212	212	298
-elided forms	93	76	101	89	119	158
-contract. forms	54	47	56	57	44	68
-de reduction	102	107	103	116	89	127

Table 2 (cont'd)

	Grade 1		Grade 2		Grade 3	
	FF	FH	FF	FH	FF	F
Adj. Totals	267	376	270	304	347	3
-masculine	138	198	128	147	199	2
-feminine	129	178	142	157	148	1
Prepositions[a]	361	314	466	394	452	5

[a]This class includes redundant occurrences.

Table 3

Pronouns[a]

Table 3A Percentage of errors in the 3rd pers. masc. subj. pronouns

	Grade 1	Grade 2	Grade 3	x^2 (grades)
FF	4	5	1	10.242**
FH	4	2	2	2.970
x^2 (programs)	.025	5.014*	.046	

Table 3B Percentage of errors in the 3rd pers. fem. subj. pronouns

	Grade 1	Grade 2	Grade 3	x^2 (grades)
FF	58	41	13	75.508**
FH	46	43	35	2.995
x^2 (programs)	1.777	.036	22.709***	

Table 3 (cont'd)

Table 3C P Percentage of errors in the object pronouns

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	94	83	35	67.573***
FH	84	92	59	16.046***
X^2 (programs)	.970	.939	8.625**	

Table 3D Percentage of errors in the reflexive pronouns

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	91	69	86	10.979**
FH	88	88	78	3.267
X^2 (programs)	.029	4.927*	1.089	

* $p < .05$

** $p < .01$

*** $p < .001$

[a] Percentages joined by a line differ significantly from one another according to the Scheffé Extension procedure.

Table 4

Verbs[a]

Table 4A Percentage of errors in the 3rd pers. sing. present indicative

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	8	4	2	27.486***
FH	14	13	7	21.037***
X^2 (programs)	10.819***	33.691***	19.056***	

Table 4B Percentage of errors in the 3rd pers. plur. present indicative

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	70	55	47	22.512***
FH	71	67	56	11.284***
X^2 (programs)	.031	5.746*	3.592	

Table 4 (cont'd)

Total 4C Percentage of errors in the 3rd pers. plur. irreg. present indicative

	Grade 1	Grade 2	Grade 3	x^2 (grades)
FF	90	81	74	10.474**
FH	92	86	75	13.961***
X^2 (programs)	.114	.571	.000	

Table 4D Percentage of errors in the passé composé

	Grade 1	Grade 2	Grade 3	x^2 (grades)
FF	51	55	52	.851
FH	63	59	56	.891
X^2 (programs	3.200	.327	1.379	

Table 4E Percentage of errors in the choice of tense of the passé composé

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	19	6	10	16.496***
FH	17	18	19	.335
X^2 (programs)	.097	10.226***	7.794**	

Table 4 (cont'd)

Table 4F Percentage of errors in the auxiliary of the passé composé

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	32	42	38	3.951
FH	45	40	41	.582
X^2 (programs)	3.73	.078	.451	

Table 4G Percentage of errors in the past participle of the passé composé

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	15	21	17	2.348
FH	15	21	13	4.207
X^2 (programs)	.017	.008	1.455	

Table 4H Percentage of errors in the infinitive

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	14	11	13	.426
FH	-	25	14	.911
X^2 (programs)	-	2.188	.007	

Table 4 (cont'd)

Table 4I Percentage of errors in the idiomatic expressions

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	86	75	73	5.288
FH	81	73	62	9.308**
X^2 (programs)	.262	.031	2.650	

* $p < .05$

** $p < .01$

*** $p < .001$

[a] Percentages joined by a line differ significantly from one another according to the Scheffé Extension procedure.

Table 5

Articles[a]

Table 5A Percentage of errors in the masculine singular articles

	Grade 1	Grade 2	Grade 3	x^2 (grades)
FF	8	8	4	6.529***
FH	11	10	8	3.333
x^2 (programs)	1.417	.874	4.125*	

Table 5B Percentage of errors in the feminine singular articles

	Grade 1	Grade 2	Grade 3	x^2 (grades)
FF	46	47	29	22.082***
FH	50	41	41	6.434*
x^2 (programs)	.499	1.555	9.642**	

Table 5 (cont'd)

Table 5C Percentage of errors in the plural articles

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	11	1	6	17.426***
FH	9	6	5	2.601
X^2 (programs)	.275	4.913*	.021	

Table 5D Percentage of errors in the elided form l'

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	2	10	5	5.544
FH	18	12	12	1.950
X^2 (programs)	11.089***	.095	3.226	

Table 5E Percentage of errors in the contracted forms

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	93	93	80	5.563
FH	97	91	80	6.651*
X^2 (programs)	.061	.001	.005	

Table 5 (cont'd)

Table 5F Percentage of errors in the reduced form de

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	35	35	30	.639
FH	42	35	49	4.513
X^2 (programs)	.741	.007	6.635***	

* $p < .05$

** $p < .01$

*** $p < .001$

[a] Percentages joined by a line differ significantly from one another according to the Scheffé Extension procedure.

Table 6[a]

Adjectives

Table 6A Percentage of errors in the masculine adjectives

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	11	10	12	.159
FH	29	18	13	16.490***
X^2 (programs)	14.462***	3.080	.045	

Table 6B Percentage of errors in the feminine adjectives

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	57	63	49	5.264
FH	48	45	49	.519
X^2 (programs)	1.733	8.442**	.001	

** $p < .01$

*** $p < .001$

[a] Percentages joined by a line differ significantly from one another according to the Scheffé Extension procedure.

Table 7

Prepositions[a]

Table 7A Percentage of errors in the prepositions

	Grade 1	Grade 2	Grade 3	X^2 (grades)
FF	34	25	21	17.878***
FH	34	28	22	14.729***
X^2 (programs)	.000	1.193	.170	

Table 7B Percentage of omission, intrusion and substitution errors as a function of the total percentage of preposition errors.

	Grade 1	Grade 2	Grade 3	X^2 (grades)
Omission	14	14	12	1.242
Intrusion	5	8	9	6.884*
Substitution	12	12	14	.383

* $p < .05$

*** $p < .001$

[a] Percentages joined by a line differ significantly from one another according to the Scheffé Extension procedure.

Table 8

Rank Orders of Seventeen Classes According to Increasing Percentage of Errors In Grade 1

FF		FH	
class	% errors	class	% errors
elided form	2	masc.subj.pronoun	4
masc.subj.pronoun	4	plur.article	5
masc.sing.article	8	masc.sing.article	11
3rd.pers.sing.pres.	8	3rd.pers.sing.pres.	14
plur.article	11	elided form	18
masc.adjective	11	masc.adjective	29
preposition	34	preposition	34
reduced form <u>du</u>	35	reduced form <u>de</u>	42
fem.sing.article	40	fem.subj.pronoun	46
passé composé	51	fem.adjective	48
fem.adjective	57	fem.sing.article	50
fem.subj.pronoun	58	passé composé	63
3rd.pers.plur.pres.	70	3rd.pers.plur.pres.	71
idiom.expression	86	idiom.expression	81
reflex.pronoun	91	obj.pronoun	84
contracted form	93	reflex.pronoun	88
obj.pronoun	94	contracted form	97

rho = .934 ; $p < .01$

Table 9

Rank Orders of Eighteen Classes According to Increasing Percentage of Errors in Grade 2

FF		FH	
class	% errors	class	% errors
plur.article	1	masc.subj.pronoun	2
3rd.pers.sing.pres.	4	plur.article	6
masc.subj.pronoun	5	masc.sing.article	10
masc.sing.article	8	elided form	12
masc.adjective	10	3rd.pers.sing.pres.	13
elided form	10	masc.adjective	18
infinitive	11	infinitive	24
preposition	25	preposition	26
reduced form de	35	reduced form de	35
fem.subj.pronoun	41	fem.sing.article	41
fem.sing.article	47	fem.subj.pronoun	43
3rd.pers.plur.pres.	55	fem.adjective	45
passé composé	55	passé composé	59
fem.adjective	63	3rd.pers.pres.plur.	67
reflex.pronoun	69	idiom.expression	73
idiom.expression	75	reflex.pronoun	88
obj.pronoun	83	contracted form	91
contracted form	93	obj.pronoun	92

rho = .969; $p < .01$

Table 10

Rank Orders of Eighteen Classes According to Increasing Percentage of Errors in Grade 3

FF		FH	
class	% errors	class	% errors
masc.subj.pronoun	1	masc.subj.pronoun	2
3rd.pers.sing.pres.	2	plur.article	5
masc.sing.article	4	3rd.pers.sing.pres.	7
elided form	5	masc.sing.article	8
plur.article	6	elided form	12
masc.adjective	12	masc.adjective	13
infinitive	13	infinitive	14
fem.subj.pronoun	13	preposition	22
preposition	21	fem.subj.pronoun	35
fem.sing.article	29	fem.sing.article	41
reduced form de	30	reduced form de	49
obj.pronoun	35	fem.adjective	49
3rd.pers.plur.pres.	47	3rd.pers.plur.pres.	56
fem.adjective	49	passé composé	58
passé composé	52	obj.pronoun	59
idiom.expression	73	idiom.expression	62
contracted form	80	reflex.pronoun	78
reflex.pronoun	86	contracted form	80

rho = .958; $p < .01$

APPENDIX

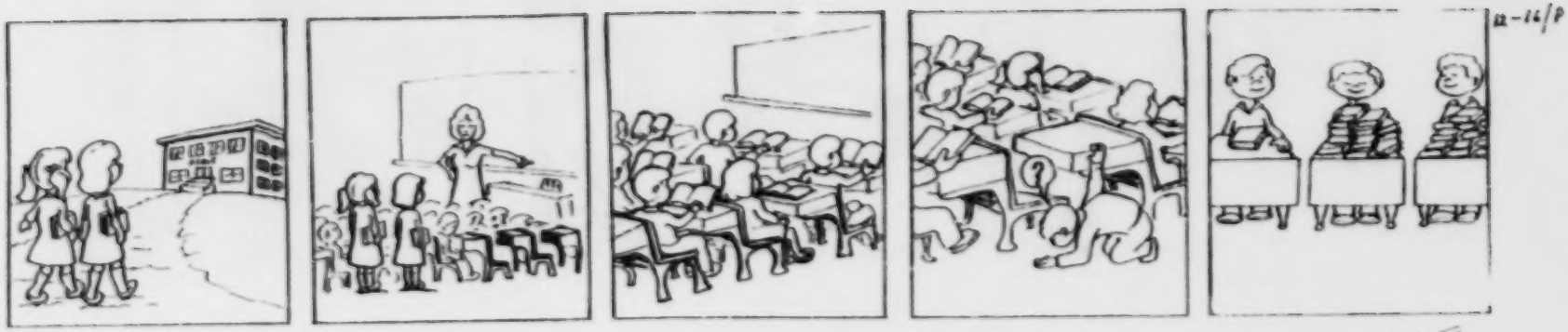
1-5p

Set I

6 - B/P

Set II

Brrrr
9-11/P
Sat III



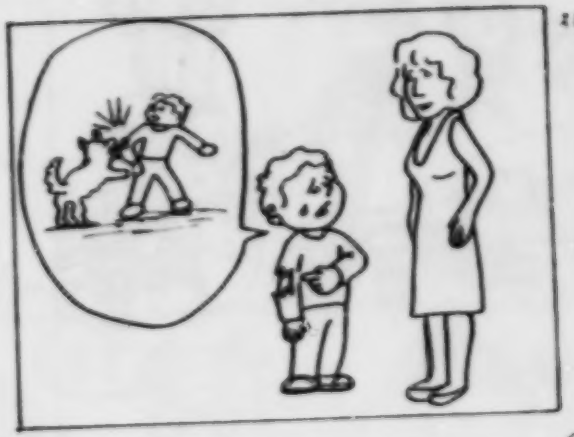
12-14/P

Set IV

11-14/P

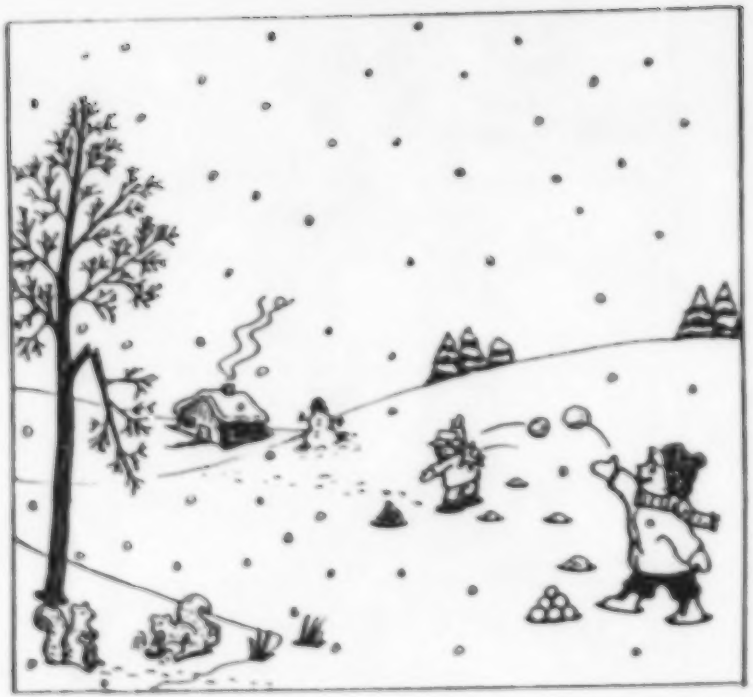
Set V

Set VI



21 - 22

Set VII



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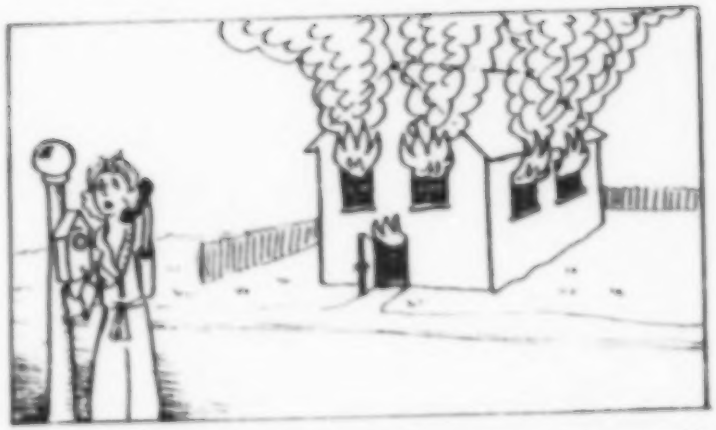

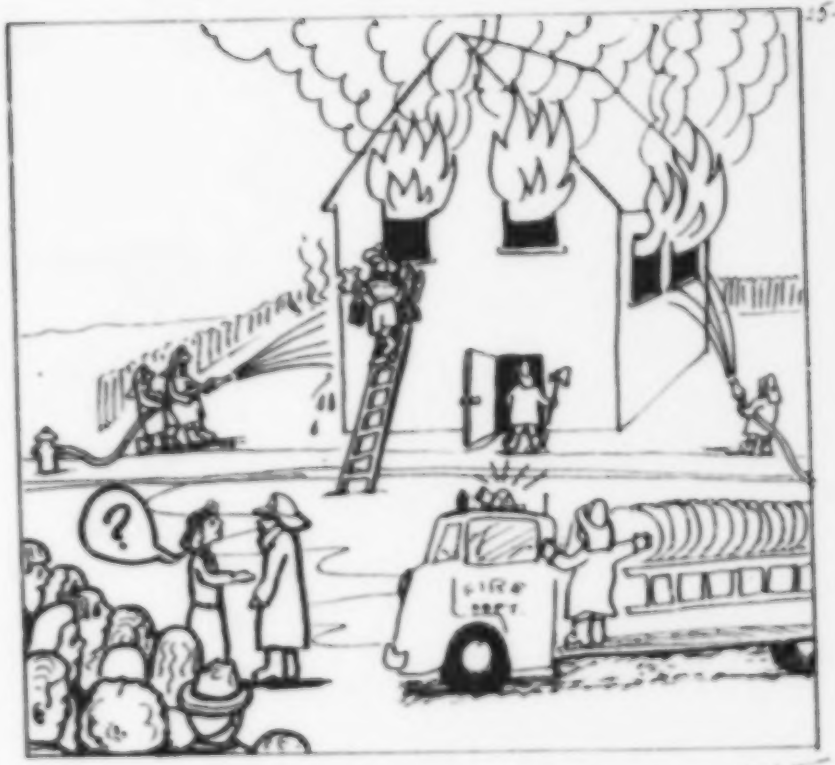

Set II